

SERIAL NO. 09/916,611

ATTORNEY DOCKET NO. HCC-011 (306*142)

Claims 1, 2, 8, 9, 12, 18, 19, 28, 29, 33, 37-40, 44-48, 49, 53, 66, 69, 72, 74-81 and 86-90 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berger *et al.* U.S. Patent No. 6,121,200 (hereinafter referred to as "Berger"). The applicants respectfully traverse this rejection.

Berger is related to using an acid herbicide in the salt form.

Berger states at column 10, lines 47-51:

The present herbicidal compositions are not limited to a particular herbicide or mixture of herbicides. They may be used with a variety of pesticides, including but not limited to herbicides in any of their water soluble salt forms. (emphasis added).

Berger further states at column 11, lines 12-17:

Since glyphosate in acid form has limited water solubility (about 1.2%) the water soluble salts of glyphosate are normally used for most applications. Among the water soluble salts of glyphosate are the trimethylsulfonium salt, the ammonium salt, the isopropylamine salt, and the alkali metal salts, such as sodium and potassium." (emphasis added).

As noted, these are all salts and Berger teaches away from using the acid form because it has limited water solubility. Furthermore, it is confirmed in Berger that salts are required at column 11, line 45 through 58 which states:

Stable aqueous concentrate compositions of the present invention can be made with glyphosate salts at a concentration from about 5% to about 50%, preferably about 35% to about 45%, surfactant composition at a concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. Dry water soluble granular (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with glyphosate salts at a concentration from about 10% to about 85%, preferably about 50% to about 80%, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. (emphasis added).

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Berger also states at column 12, lines 51 through 60:

Glyphosate is the widely recognized common name for N-phosphonomethylglycine, the biologically active entity of which is the acid form and may be used in the form of an ester but is normally used in the form of water soluble salts. Water soluble salts include alkali metal salts of glyphosate, and organic salts of glyphosate including onium salts such as ammonium, sulfonium and phosphonium salts of glyphosate. The most preferred salts include ammonium, isopropylammonium and trimethylsulfonium salts of glyphosate. (emphasis added).

Although Berger acknowledges that glyphosate may exist in the acid form, Berger teaches that the glyphosate is used in the salt form. Clearly, Berger teaches away from using the herbicide in the acid form because of the limited solubility. The teaching of Berger to use glyphosate in the salt form is also recognized in the applicants' specification as the prior art. The applicants' specification at page 2, lines 1 through 9 state:

Chlorinated carboxylic acid herbicides are usually have traditionally been reacted into amine or other salts, which are soluble in water, or into esters which are oil soluble. Both salts and esters must then break down in the environment back into the acid, which is herbicidal.

It would be preferable, then, to apply the herbicides as acids. However, they are not significantly soluble in water. Previously, solvents used to formulate 2,4-D acid such as xylene range hydrocarbons, are known to be phytotoxic to plants and may enhance herbicide volatility and subsequent drift to non-target areas. Albaugh D-638 is one such product, but it further incorporates the ester form of 2,4-D into the formulation. (emphasis added).

Again, the applicants have recognized that glyphosate used in salt form is used in the prior art. However, it was not known to use the herbicide such as glyphosate in the acid form. For the above reasons, Berger teaches away from the applicants' claimed invention and this rejection should be withdrawn.

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The applicants appreciate the Examiner acknowledging that equal quantities of 2,4-D and C11 alcohol ethoxylate is allowable.

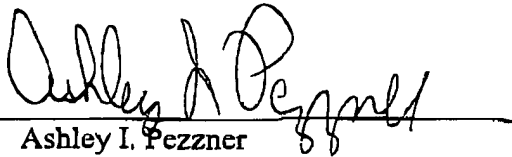
No additional fee is due. If there are any additional fees due in connection with the filing of this response, including any fees required for an additional extension of time under 37 CFR 1.136, such an extension is requested and the Commissioner is authorized to charge or credit any overpayment to Deposit Account No. 03-2775.

A prompt favorable action is earnestly solicited. If the Examiner deems the election non-responsive, the applicants respectfully request that the Examiner contact the undersigned at (302) 88-6270.

Respectfully submitted,

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APPENDIX 1

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- a1
1. A herbicide composition comprising at least one chlorinated carboxylic acid herbicide in the acid form and at least one surfactant in an effective amount such that said chlorinated carboxylic acid herbicide is dissolved in the surfactant and said at least one surfactant is present in a quantity equal to or greater than said at least one chlorinated carboxylic acid herbicide.
2. A herbicide composition comprising at least one fully solubilized chlorinated carboxylic acid herbicide in the acid form and at least about 8 weight % of at least one surfactant.
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- a2
38. The herbicide composition as claimed in claim 4, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
39. The herbicide composition as claimed in claim 7, wherein said chlorinated carboxylic acid herbicide is present in an amount from about 5 to about 30% by weight.
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- a3
66. A herbicide composition containing a chlorinated carboxylic acid herbicide in the acid form and a surfactant in the ratio of acid herbicide to surfactant from about 1:6 to about 1:1.
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- a4
81. A process to produce a herbicidal composition which comprises blending a fully solubilized acid herbicide in the acid form with a surfactant to form a solution provided that said chlorinated carboxylic acid herbicide and surfactant are present in an amount of about 1 part by weight of chlorinated carboxylic acid herbicide to at least about 1.5 part by weight of surfactant.
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